



EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

Division of Drinking Water

March 8, 2017

System No.: 2400091

Mr. Hector Garcia, Supervisor of Maintenance and Operations
Charleston School
18463 W. Charleston Road
Los Banos, CA 93635

RE: CITATION NO. 03-11-17C-007, Source Flow Meter

Enclosed is a Citation issued to the Charleston School (hereinafter "Water System") public water system.

The Water System will be billed at the State Water Resources Control Board's (hereinafter "State Board") hourly rate (currently estimated at \$161.00) for the time spent on issuing this Citation. California Health and Safety Code, Section 116577, provides that a public water system must reimburse the State Board for actual costs incurred by the State Board for specified enforcement actions, including but not limited to, preparing, issuing and monitoring compliance with a citation. At this time, the State Board has spent approximately 2.0 hour(s) on enforcement activities associated with this violation.

The Water System will receive a bill sent from the State Board in August of the next fiscal year. This bill will contain fees for any enforcement time spent on the District for the current fiscal year.

If you have any questions regarding this matter, please contact Austin Ferreria at 559-447-3300 or me at 559-447-3316.

Sincerely,

Kassy D. Chauhan, P.E.
Senior Sanitary Engineer, Merced District
Central California Section
SOUTHERN CALIFORNIA BRANCH
DRINKING WATER FIELD OPERATIONS

Enclosures

Certified Mail No.: 7016 1370 0000 0455 3314

cc: Mr. Jared Steeley, Contract Operator
Merced County Environmental Health Department

**STATE OF CALIFORNIA
WATER RESOURCES CONTROL BOARD
DIVISION OF DRINKING WATER**

**IN RE: CHARLESTON SCHOOL
WATER SYSTEM NO. 2400091**

TO: Mr. Hector Garcia, Supervisor of Maintenance and Operations
Charleston School
18463 W. Charleston Road
Los Banos, CA 93635

CC: Mr. Jared Steeley, Contract Operator
Merced County Environmental Health Department

**CITATION FOR VIOLATION OF
CALIFORNIA CODE OF REGULATIONS, TITLE 22, SECTION 64561
Source Flow Meters**

Issued on March 8, 2017

Section 116650 of the California Health and Safety Code authorizes the issuance of a citation to a public water system for violation of the California Safe Drinking Water Act (Health and Safety Code, Division 104, Part 12, Chapter 4, commencing with Section 116270) (hereinafter "California SDWA"), or any regulation, standard, permit or order issued or adopted thereunder.

The State Water Resources Control Board (hereinafter "Board"), acting by and through its Division of Drinking Water (hereinafter "Division") and the Deputy Director for the Division (hereinafter "Deputy Director"), hereby issues a citation to the Charleston School Water System (hereinafter "Water System") (18463 W. Charleston Road, Los Banos, CA 93635) for violation of California Code of Regulations (CCR), Title 22, Section 64561.

The applicable statutes and regulations are provided in Appendix A, attached hereto and incorporated by reference.

The Water System is a nontransient-noncommunity water system serving a population of approximately 325 people per day through a single service connections. Effective April 1, 2014, the Merced County Department of Environmental Health transferred the jurisdictional regulatory oversight for this water system to the Division. The Water System currently operates under a water supply permit (No. 03-11-16P-002) issued by the Division on January 12, 2016 (Appendix B).

The Division conducted a sanitary survey of the Water System on August 8, 2015, and observed that a flow meter was not installed on the discharge piping from Well No. 2. The Division noted the need to install a totalizing flow meter at a point between the source and the entry point to the distribution system and submit photo documentation to the Division by February 28, 2016. In addition, the System was required to begin recording monthly well production quantities on at least a monthly basis and reporting those quantities to the Division annually via the electronic Annual Report to the Drinking Water Program (e-ARDWP). Despite the Division's efforts to inform the Water System of the requirements to install a flow meter and record the total monthly water production, the Water System has failed to install the flow meter and begin reporting the monthly production from Well No. 2 annually to the Division.

The Water System water supply permit, Provision No. 8, requires the Water System to begin recording monthly well production quantities and report data to the Division for the months of

1 operation on the electronic Annual Report to the Drinking Water Program (e-ARDWP). The
2 System has failed to comply with the water supply permit, Provision No. 8.

3 **DETERMINATION**

4 Title 22, CCR, Section 64561, Source Flow Meters provides that each water system shall install
5 a flow meter at a location between each water source and the entry point to the distribution
6 system and meter the quantity of water flow from each source, and record the total monthly
7 production each month.

8
9 The Division has determined that the Water System failed to comply with Title 22, CCR, Section
10 64561, Source Flow Meters by failing to install a flow meter at Well No. 1 and for failure to meter
11 the quantity of water flow from each source and record the total monthly production each month.

12
13 In addition, the Division has determined that the Water System failed to comply with Permit
14 Provision No. 8 of the Domestic Water Supply Permit No. 03-11-16P-002.

15 16 **ADMINISTRATIVE PENALTIES**

17 18 **Pursuant to CHSC Section 116650**

19 Sections 116650(a) of the CHSC allows for the issuance of a citation for failure to comply with
20 the requirements of the California Safe Drinking Water Act, or any regulation, permit, standard,
21 citation, or order issued thereunder. Section 116650(d) and (e) allow for the assessment of a
22 penalty not to exceed one thousand dollars (\$1,000) per day for each day that a violation occurs.

23
24 Despite the Division's efforts to work with the Water System, the Water System has failed to
25 comply with Section 64561. Therefore, the Division hereby assesses an administrative penalty
26 of one thousand and five hundred dollars (\$1,500) upon Water System. Directive No. 6 below
27

describes the requirements for payment of the Penalty and conditions under which the Division may waive the requirement to pay the penalty.

DIRECTIVES

The Water System is hereby directed to take the following actions:

1. Comply with Permit Provision No. 8 of the Domestic Water Supply Permit No. 03-11-16P-002.
2. On or before March 31, 2017, submit a written response to the Division indicating its willingness to comply with the directives of this citation.
3. On or before May 31, 2017, install a source flow meter on Well No. 2 at a point between the source and the entry point to the distribution system per Section 64561.
4. On or before May 31, 2017, submit photo documentation to the Division showing the installation of the flow meter on Well No. 2 at a point between the source and the entry point to the distribution system in accordance with Section 64561.
5. Beginning in June 2017 or before, record the total production from each active source a minimum of monthly and report the total monthly production to the Division annually via the Electronic Annual Report.
6. Pay the Penalty of one thousand and five hundred dollars (\$1,500) within 90 days of the receipt of this Citation. Payment shall be made payable to the State Water Resources Control Board – Division of Drinking Water. Further instruction on the payment is provided in Appendix C, Notice of Citation Issuance.

1
2 If the Water System complies with Directives 1, 2, 3, 4, and 5 before the Penalty
3 becomes due, and upon written request from the Water System, the Division will
4 *consider, at its sole discretion*, terminating the requirement to pay the penalty.
5

- 6 7. If the Water System is unable to perform the tasks specified in this citation for any
7 reason, whether within or beyond its control, and if the Water System notifies the
8 Division in writing no less than five days in advance of the due date, the Division may
9 extend the time for performance if the Water System demonstrates that it has used
10 its best efforts to comply with the schedule and other requirements of this citation.
11

12 The Division reserves the right to make such modifications to the Citation as it may deem
13 necessary to protect public health and safety. Such modifications may be issued as
14 amendments to this Citation and shall be effective upon issuance.
15

16 Nothing in this Citation relieves the Water System of its obligation to meet the requirements of
17 the California Safe Drinking Water Act or any regulation, standard, permit or order issued
18 thereunder.
19

20 All submittal required by this Citation shall be submitted to the Division at the following address:
21

22 Kassy D. Chauhan, P.E.
23 Senior Sanitary Engineer
24 State Water Resources Control Board
25 Division of Drinking Water
26 265 W. Bullard Avenue, Suite 101
27 Fresno, CA 93704

PARTIES BOUND

1 This Citation shall apply to and be binding upon the Charleston School Water System, its
2 officers, directors, agents, employees, contractors, successors, and assignees.

3 **SEVERABILITY**

4 The Directives of this Citation are severable, and the Water System shall comply with each and
5 every provision thereof notwithstanding the effectiveness of any provision.

6
7 **FURTHER ENFORCEMENT ACTION**

8 The California SDWA authorizes the Board to: issue citation with assessment of administrative
9 penalties to a public water system for violation or continued violation of the requirements of the
10 California SDWA or any permit, regulation or order issued or adopted thereunder including, but
11 not limited to, failure to correct a violation identified in a citation or compliance order. The
12 California SDWA also authorizes the Board to take action to suspend or revoke a permit that has
13 been issued to a public water system if the system has violated applicable law or regulations or
14 has failed to comply with an order of the Board; and to petition the superior court to take various
15 enforcement measures against a public water system that has failed to comply with an order of
16 the Board. The Board does not waive any further enforcement action by issuance of this citation.

17
18 3-8-2017
19 Date


20 Carl L. Carlucci, P.E.
21 Supervising Senior Sanitary Engineer,
22 Central California Region
23 DRINKING WATER FIELD OPERATIONS BRANCH

24 **CERTIFIED NO.: 7016 1370 0000 0455 3314**

25 **CLC/KDC/Citation/no flow meter**

26 **Appendices:**

27 Appendix A: Applicable Authorities
Appendix B: Water Supply Permit No. 03-11-16P-002
Appendix C: Notice of Citation Issuance



APPENDIX A

Applicable Statutes and Regulations for Citation No. 03-12-17C-XXX

Section 116650 of the CHSC states in relevant part:

§116650. Citations

- (a) If the Division determines that a public water system is in violation of this chapter or any regulation, permit, standard, citation, or order issued or adopted thereunder, the Division may issue a citation to the public water system. The citation shall be served upon the public water system personally or by certified mail. Service shall be deemed effective as of the date of personal service or the date of receipt of the certified mail. If a person to whom a citation is directed refuses to accept delivery of the certified mail, the date of service shall be deemed to be the date of mailing.
- (b) Each citation shall be in writing and shall describe the nature of the violation or violations, including a reference to the statutory provision, standard, order, citation, permit, or regulation alleged to have been violated.
- (c) A citation may specify a date for elimination or correction of the condition constituting the violation.
- (d) A citation may include the assessment of a penalty as specified in subdivision (e).
- (e) The Division may assess a penalty in an amount not to exceed one thousand dollars (\$1,000) per day for each day that a violation occurred, and for each day that a violation continues to occur. A separate penalty may be assessed for each violation.

Section 64561 of Title 22, California Code of Regulations states in relevant part:

§64561. Source Flow Meters.

Each water system shall:

- (a) Except for inactive sources, install a flow meter at a location between each water source and the entry point to the distribution system;
- (b) Meter the quantity of water flow from each source, and record the total monthly production each month.

State Water Resources Control Board
Division of Drinking Water

January 12, 2016
System No.: 2400091

Mr. Hector Garcia,
Supervisor of Maintenance and Operations
Charleston School
18463 W. Charleston Road
Los Banos, CA 93635

Dear Mr. Garcia,

RE: Water Supply Permit No. 03-11-16P-002

The purpose of this letter is to inform you that the State Water Resources Control Board Division of Drinking Water (Division) has issued a domestic water supply permit for the Charleston School Water System (School). The Domestic Water Supply Permit, Water Quality Monitoring Schedule, and a Technical Report are attached to this letter. Please review the technical report and provide any comments or corrections to the Division in writing.

In addition to the permit provisions included in the permit, the Division recommends that Charleston School address the following items:

1. The Division recommends the School cleans the well enclosure on a monthly basis from debris and cobwebs in order to help prevent contamination to the drinking water supply.
2. The School must install a flow meter equipped with a totalizer at a location between the wellhead and the entry point to the distribution system as required in the California Waterworks Standards. The School must submit receipts and/or photos as proof of flow meter installation by February 28, 2016.
3. Beginning in March 2016, the School must begin recording the total production from the well at least one time per month and report the monthly production totals to the Division each year on the electronic annual report to the Drinking Water Program (e-AR).

4. The Division recommends that the School evaluate source capacity and develop a drought contingency plan to deal with possible water shortages and/or outages. Please provide a written response to our office by January 31, 2016, which outlines the School's plan of action to deal with possible water shortages and/or outages including the implementation of water conservation measures.
5. An Emergency Chlorination Plan must be developed and submitted to the Division. Details of what is to be included in the plan can be found in the guidance document attached to this report. The School should use the attached guide to create an Emergency Chlorination Plan and submit it to the Division by January 31, 2016, (Attachment B) for review and approval. Please contact the Division for assistance with the development of the Emergency Chlorination Plan.
6. The School must conduct a cross-connection control survey to identify potential hazards by January 31, 2016. A cross-connection control guidance document is provided in Attachment C. Please contact the Division for assistance with the completion of the cross-connection survey.
7. The School needs to review the BSSP that was created (Attachment D). If it is acceptable, please sign and date the BSSP where indicated and return it to the Division by January 31, 2015.

Please acknowledge in writing by January 31, 2016, receipt of this water supply permit, your willingness to comply with the permit provisions and any comments or corrections to the technical report. This permit contains an all-inclusive list of applicable special permit provisions.

Sincerely,



Kassy D. Chauhan, P.E.
Senior Sanitary Engineer
Merced District
Central California Section
SOUTHERN CALIFORNIA BRANCH
DRINKING WATER FIELD OPERATIONS

Enclosures

Cc: Jared Steeley – Contract Operator

KDC/JRC/2400091/2016 permit/transmittal letter.doc

State Water Resources Control Board
Division of Drinking Water

Certificate of Issuance
OF A
WATER SUPPLY PERMIT
TO
Charleston School Water System

This is to certify that a water supply permit 03-11-16P-002 has been issued to Charleston School Water System on January 12, 2016, to supply water for domestic purposes to the Charleston School Water System. The permit was issued by the State Water Resources Control Board - Division of Drinking Water, pursuant to the provisions of Division 104, Part 12, Chapter 4, Article 7, of the California Health and Safety Code. The permit is subject to the requirements of Title 22, California Code of Regulations, and to the conditions provided in the water supply permit.



A copy of the water supply permit is on file with the Charleston School Water System or may be obtained by contacting the Merced District Office of the State Water Resources Control Board - Division of Drinking Water, Field Operations Branch, 265 W. Bullard Ave., Ste. 101, Fresno, CA 93704

A handwritten signature in dark ink, appearing to read "Kassy D. Chauhan", written over a horizontal line.

Kassy D. Chauhan, P.E., Senior Sanitary Engineer

State Water Resources Control Board
Division of Drinking Water

STATE OF CALIFORNIA

DOMESTIC WATER SUPPLY PERMIT ISSUED TO
Charleston School
Water System No. 2400091

PERMIT NO. 03-11-16P-002

EFFECTIVE DATE: *January 12, 2016*

WHEREAS:

1. Charleston School Water System (School) was under the local primacy agency of Merced County until April 1, 2014, when regulatory jurisdiction of the County's small water system program was transferred to the State Water Resources Control Board – Division of Drinking Water (Division). The purpose of this report is to describe the current state of the School and to make recommendations regarding the issuance of a domestic water supply permit.
2. The public water system is known as Charleston School whose headquarters is located at 18463 W Charleston Road, Los Banos, CA 93635.
3. The public water system for which the permit application has been submitted is described briefly below:

The Charleston School Water System is a nontransient-noncommunity water system located in Los Banos, CA. The School serves kindergarten through 6th grade with a population of approximately 325 students and staff. The School consists of one active well (Well No. 2), one inactive well (Well No. 1), a 1,000-gallon steel pressure tank, and a 10,000-gallon fire storage tank. The School has a septic system which is located greater than 100 feet from the well.

And WHEREAS:

1. The School has submitted all of the required information relating to the operation of the Charleston School Water System.

2. The State Water Resources Control Board, Division of Drinking Water has evaluated all of the information submitted by Charleston School Water System and has conducted a physical investigation of the School on August 8, 2015.
3. The State Water Resources Control Board, Division of Drinking Water has the authority to issue domestic water supply permits pursuant to Health and Safety Code Section 116540.

THEREFORE:

1. The Charleston School Water System meets the criteria for and is hereby classified as a nontransient-noncommunity water system.
2. The applicant has demonstrated that Charleston School Water System has adequate technical, managerial, and financial capacity to operate the water system.
3. Provided the following conditions are complied with, the Charleston School Water System should be capable of providing water to consumers that is pure, wholesome, and potable and in compliance with statutory and regulatory drinking water requirements at all times.

THE CHARLESTON SCHOOL WATER SYSTEM IS HEREBY ISSUED THIS DOMESTIC WATER SUPPLY PERMIT TO OPERATE THE CHARLESTON SCHOOL WATER SYSTEM.

The Charleston School Water System shall comply with the following permit conditions:

1. The permitted active source for the School is Well No. 2 (PS Code 2400091-011). The Merced District Office of the Drinking Water Field Operations Branch (DWFOB) must permit all other sources before they can be used in the water system.
2. Well 1 North (PS Code 2400091-001) is designated as inactive. Inactive sources are not approved sources of supply and must be locked out, physically disconnected, or otherwise isolated so that only an intentional act by an operator, and no automatic response, can place the source in service. Inactive sources can only be used as a last resort in extreme emergencies after all other active sources of supply have been utilized.

Any use of an inactive source is subject to the following restrictions:

- a. Emergency notification to the consumers that the water is unsafe for domestic use must be given immediately preceding, and on a continuing basis, during the duration of the emergency use of the source.
- b. Initiation of the use of an inactive source must be the result of an intentional manual action by the system operator.

- c. The use of an inactive source shall not be initiated without the knowledge and approval of the Division.
 - d. All monitoring as deemed appropriate by the Division shall be required during or immediately following an emergency use of an inactive source.
3. The School must comply with the attached water quality monitoring schedule for Well No. 2. All water quality monitoring results obtained in a calendar month must be submitted to the Division via electronic data transfer (EDT) by the tenth day of the following month.
 4. No additions, changes or modifications to the source of water supply outlined in Provision No. 1 can be made without prior receipt of an amended domestic water supply permit from the Division.
 5. The distribution system is classified as a D1 system in accordance with Title 22 of the California Code of Regulations. As such, the chief operator must have a D1 license or higher. In the event of a change in operator, Charleston School must provide the Division with the name and a copy of the operator's certification within thirty days.
 6. The School shall submit plans and specifications for all proposed sources of supply and/or water treatment projects to the Division for review and approval prior to construction.
 7. The School shall submit an Annual Report to the Drinking Water Program (ARDWP) each year, documenting specific water system information for the prior year. The report shall be in the format specified by the Division.
 8. Beginning March 2016, the School must monitor and record the total amount of water produced by Well No. 2 on at least a monthly frequency and report the total yearly production to the Division via the electronic Annual Report (<http://drinc.ca.gov/ear/home.aspx>) at the beginning of each calendar year.

This permit supersedes all previous domestic water supply permits issued for this public water system and shall remain in effect unless and until it is amended, revised, reissued, or declared to be null and void by the State Water Resources Control Board, Division of Drinking Water. This permit is non-transferable. Should the Charleston School Water System undergo a change of ownership, the new owner must apply for and receive a new domestic water supply permit.

Any change in the source of water for the Water System, any modification of the method of treatment as described in the Permit Report, or any addition of distribution system storage reservoirs shall not be made unless an application for such change is submitted to the State Water Resources Control Board, Division of Drinking Water.

This permit shall be effective as of the date shown below.

FOR THE STATE WATER RESOURCES CONTROL BOARD, DIVISION OF DRINKING WATER

1-12-16

Kassy D. Chauhan

Kassy D. Chauhan, P.E.
Senior Sanitary Engineer
Merced District
Central California Section
SOUTHERN CALIFORNIA BRANCH
DRINKING WATER FIELD OPERATIONS

KDC/JRC/2400091/water supply permit.doc

Technical Report
For the Consideration of a Revised Permit for the
Charleston School
System No. 2400091
Merced County
January 2016
State Water Resources Control Board
Southern California Branch
Drinking Water Field Operations
Jason Cunningham, Student Assistant

I. INTRODUCTION

1.1 PURPOSE OF REPORT

The Charleston School Water System (School) is now under the primacy of the State Water Resources Control Board, Division of Drinking Water (Division). Formerly, the School was under the local primacy agency of Merced County until April 1, 2014, when regulatory jurisdiction of the County's small water system program was transferred to the Division. The purpose of this report is to describe the current state of the water system and to make recommendations regarding the issuance of a revised permit.

1.2 DESCRIPTION OF SYSTEM

The School's Water System is a nontransient-noncommunity water system located in Los Banos, CA. The School serves kindergarten through 6th grade with a population of approximately 325 students and staff. The System consists of one active well (Well No. 2), one inactive well (Well No. 1), steel pressure tank, and a fire storage tank. The School has a septic system which is located greater than 100 feet from the well.

1.3 SOURCES OF INFORMATION

Information for the preparation of this report was obtained from Hector Garcia, Supervisor of maintenance and operations; Jared Steeley, Contract Operator; system files from the Merced District Office of the Drinking Water Field Operations Branch (DWFOB); and a field inspection of the water system conducted on August 8, 2015, by Shavonne Stallworth and Jason Cunningham.

II. INVESTIGATION FINDINGS

2.1 AREA SERVED

The School's Water System is physically located at 18463 W. Charleston Road, Los Banos, CA 93635. The School has eight buildings and the surrounding area is primarily agriculture.

2.2 GROUNDWATER SOURCE OF SUPPLY

Well No. 2 (Active Untreated)

Well No. 2 (PS Code 2400091-011) is located south of the campus, and is on a concrete pedestal that is approximately 4 feet by 4 feet and 4 inches above surrounding ground. The well is secured inside a wooden enclosure. At the time of the inspection, the well enclosure contained debris and cobwebs. Well No. 2 was drilled in 2005 to a depth of 500 feet via the rotary drilling method. A Well Completion Report is on file with the Division. Well No. 2 contains an 8-inch diameter PVC casing to a depth of 500 feet. The well is perforated between 400 feet and 500 feet. The well is equipped with a submersible pump, but the pump size and setting are unknown. A bentonite annular seal was constructed to a depth of 380 feet, and the well is gravel packed from 380 feet to 500 feet. The wellhead is equipped with a casing vent, which was downturned and screened.

The Division recommends that the School cleans the well enclosure on a monthly basis from debris and cobwebs in order to help prevent contamination to the drinking water supply.

The discharge piping from the well includes a check valve, two hosebibs, sediment separator, 1,000-gallon steel pressure tank, and a 10,000-gallon fire storage tank. The discharge piping from the well does not include a flow meter prior to the line entering the pressure tank. All water supply wells must have a flow meter installed at a location between the wellhead and the entrance to the distribution system in accordance with the California Waterworks Standards.

The School must install a flow meter equipped with a totalizer at a location between the wellhead and the entry point to the distribution system as required in the California Waterworks Standards. The School must submit receipts and/or photos as proof of flow meter installation by February 28, 2016.

Beginning in March 2016, the School must begin recording the total production from the well at least one time per month and report the monthly production totals to the Division each year on the electronic annual report to the Drinking Water Program (e-AR).

Well No. 1 (Inactive)

Well No. 1 is located 300 feet east of Well No. 2, and is on a concrete pedestal that is approximately 8 feet by 4 feet and 4 inches above surrounding ground. The well was drilled in 1980 to a depth of 502 feet via the rotary drilling method. A Well Completion Report is on file with the Division. The well contains an 8-inch diameter PVC casing to a depth of 460 feet. The well is gravel packed from 360 feet to 460 feet, and consists of two perforated sections from 390 feet to 410 feet and 440 feet to 460 feet. According to

a report on file with the Division, Well No. 1's pump died and the well casing melted around the pump. The School could not remove the pump so the well was inactivated in July 2005. The well was physically disconnected from the 1,000-gallon steel pressure tank located next to the well. **Inactive wells are not approved sources of supply and may not be used in the water system unless there is an emergency and all other sources of supply have been utilized.**

2.3 ADEQUACY OF SUPPLY

According to Jared Steeley, the source capacity for Well No. 2 ranges between 45 and 70 gpm. Since no flow meter is provided at Well No. 2, actual water usage information is not available.

Section 64554(a) of Title 22 states that at all times a public water system's water source(s) shall have the capacity to meet the School's maximum day demand (MDD). Currently, the School does not meet this requirement with Well No. 2 being the sole source for the system. A water outage would result in water being hauled or closure of the School.

The Division recommends that the School evaluate source capacity and develop a drought contingency plan to deal with possible water shortages and/or outages. Contact the Division for information on available funding programs such as the Drinking Water State Revolving Fund (DWSRF) and drought emergency grants the School can apply for to secure potential funding to mitigate lack of source capacity. Please provide a written response to our office by **January 31, 2016**, which outlines the School's plan of action to deal with possible water shortages and/or outages including the implementation of water conservation measures.

2.4 TREATMENT

Well No. 2 does not provide routine treatment of the water produced by Well No. 2. The School is required to have an Emergency Chlorination Plan on file with the Division. The Emergency Chlorination Plan identifies how the School would adequately disinfect the source and the distribution system if there was a bacteriological contamination event. A review of the School's file showed that there was no Emergency Chlorination Plan on file.

An Emergency Chlorination Plan must be developed and submitted to the Division. Details of what is to be included in the plan can be found in the guidance document attached to this report. The School should use the attached guide to create an Emergency Chlorination Plan and submit it to the Division by **January 31, 2016**, (Attachment B) for review and approval. Please contact the Division for assistance with the development of the Emergency Chlorination Plan.

Well No. 2 is equipped with a Harmsco Industrial Filter on the inlet piping into the steel pressure tank to separate sand produced by Well No. 2. The filter was installed in 2013 due to decreased system pressure.

2.5 STORAGE

The School contains a 10,000-gallon storage tank; however the tank is used for fire protection only. System pressure for Well No. 2 is provided through a 1,000-gallon (approximate) steel pressure tank situated next to Well No. 1. At the time of the inspection, the pressure tank gauge reading was 49 psi. System pressure is assumed to be maintained between 40 and 60 psi.

2.6 DISTRIBUTION SYSTEM

Based on the review of the School's file, the distribution system water lines consists of 4-inch diameter steel lines. The distribution system includes a storage tank for fire protection, backflow prevention devices and isolation valves. According to Jared Steeley, the distribution system is currently not being routinely flushed.

2.7 OPERATION AND MAINTENANCE

Hector Garcia is the supervisor of maintenance and operations for the School. Operation, routine maintenance, and all record keeping practices are contracted out to Jared Steeley. Jared Steeley is a Grade D2 certified distribution system operator and a Grade T2 certified treatment operator. Jared Steeley visits the School at least once a month to collect routine samples. As a nontransient-noncommunity water system, the School's water system is required to have at least a D1 certified chief operator. The School meets the requirements for a certified distribution system operator. Beginning March 2016, the site visits will consist of recording the production data at least one time per month.

2.8 CROSS-CONNECTION PROGRAM

The School is required to monitor for cross connections on a continual basis and ensure there are adequate backflow prevention devices at all possible contamination points. Backflow prevention devices are to be tested and certified by a licensed Backflow Prevention Device Tester on an annual basis. If applicable, submit copies of the results to the Division. The School is equipped with two backflow prevention assemblies, one on the pressure tank discharge piping from Well No. 2, and the second before entering the storage tank. According to the 2014 Annual Report, both backflow prevention assemblies were tested in 2014.

The School must conduct a cross-connection control survey to identify potential hazards by January 31, 2016. A cross-connection control guidance document is provided in

Attachment C. Please contact the Division for assistance with the completion of the cross-connection survey.

2.9 COMPLAINT PROGRAM

Since April 1, 2014, when the Division took over regulatory jurisdiction of the School, there have been no water quality complaints received by the Division. The School must continue to record each complaint received, and report that information to the Division via the electronic Annual Report to the Drinking Water Program each year. According to the 2014 Annual Report, no complaints were made in 2014.

2.10 EMERGENCY NOTIFICATION AND RESPONSE PROGRAM

An Emergency Notification Plan (ENP) is on file with the Division and is dated April 14, 2014. The Plan lists Hector Garcia and Jared Steeley as the primary contacts in the event of an emergency. In the event of an emergency, Hector Garcia will contact Jared Steeley and perform the following measures; hand deliver written notices to each classroom for posting in English and Spanish, provide bottled water for the students and faculty, and provide portable restrooms and hand wash stations, if needed. It is expected that the notifications will be completed within one hour.

2.11 BACTERIOLOGICAL SAMPLE SITING PLAN (BSSP)

The Division did not have a Bacteriological Sample Siting Plan (BSSP) on file for the School. A BSSP was created during the inspection with the assistance of Hector Garcia. The School needs to review the BSSP that was created (Attachment D). If it is acceptable, please sign and date the BSSP where indicated and return it to the Division by **January 31, 2016**. The School is required to collect and analyze one bacteriological sample per month from within the distribution system. To comply with the California Groundwater Rule's triggered source monitoring, the School must ensure a source sample is collected any time there is a total coliform positive in the distribution system.

The School must ensure that five routine bacteriological samples are collected the month following a month that total coliform is found in a routine distribution system bacteriological sample. In addition, any time the system pressure drops below 5 psi, the School must provide a Boil Water Order (BWO – Tier 1 Public Notification) to all users of the School as well as notify the Division and the Merced County Environmental Health Department. The School must remain on the BWO until special investigative bacteriological samples show that the water in the distribution system is free from coliform bacteria. An example of a BWO – Tier 1 Public Notification is attached (Attachment E).

2.14 WATER CONSERVATION AND DROUGHT CONTINGENCY PLAN

California is facing water shortfalls in the driest year in recorded state history. On January 17, 2014, Governor Brown proclaimed a State of Emergency and directed state officials to take all necessary actions to prepare for these drought conditions. A second proclamation was issued on April 25, 2014, to increase State drought actions. Due to these conditions, all public water systems should regularly measure and record the static and pumping water levels in their groundwater wells, ideally on a monthly basis, watching for changes in water level. Additionally, all public water systems are encouraged to evaluate water losses in their delivery systems.

The School should develop a Drought Contingency Plan in order to be prepared for challenges that may arise as a result of the drought. On May 5, 2015, California adopted drought Emergency Regulations which require non-urban water suppliers (serving fewer than 3,000 connections) to achieve a 25% conservation standard or restrict outdoor irrigation to no more than two days per week.

2.15 CONSUMER CONFIDENCE REPORT

The School is required to distribute a CCR to each customer in their service area by July 1st of each year. A copy of the CCR and the certification letter must be submitted to the Division by October 1st of each year. A copy of the 2014 CCR and certification letter for the School was submitted to the Division in July 2015.

3.0 SOURCE WATER QUALITY MONITORING

For purposes of water quality monitoring, the Charleston School Water System is classified as PTGA (Nontransient-noncommunity, less than 150 service connections, groundwater, and agriculture). This designation determines the chemical monitoring schedule for the School. A copy of the School's Water Quality Monitoring Schedule is included in Attachment F. Attachment G contains a monitoring schedule that indicates when the last sample was collected and when the next sample is due. The Last Sample/Next Due monitoring schedule can be used for scheduling future monitoring events.

All source water quality monitoring compliance is based on the Division's Water Quality Inquiry (WQI) database. All chemical water quality monitoring from the sources must be submitted to the Division via electronic data transfer (EDT). In order for EDT to work properly, the School must identify the samples with the correct primary station code. The past water quality monitoring results for the Charleston School Water System are included in the WQI database, and hard copies were included in the files from Merced County Environmental Health Department.

Source Water Assessment Program (SWAP)

A review of the School's file revealed that the source water assessment (SWAP) was not completed for Well No. 2. The assessment identifies the vulnerability of the drinking water supply to contamination from typical human activities. The assessments are intended to facilitate and provide the basic information necessary for a local community to develop a program to protect the drinking water supply. As one of the requirements of conducting the source water assessments, the Division completed the Possible Contaminating List (PCA) and Well Data Sheet for Well No. 2. The Division will use the PCA checklists and well construction information to assess source vulnerability to contamination. A vulnerability assessment report will be provided to the System when it becomes available.

When available, the vulnerability information from the SWAP must be included in the CCR each year.

General Mineral, General Physical and Inorganic Chemicals

With the exception of nitrate and inorganic chemicals; general mineral and general physical chemicals are required to be completed at least once for Well No. 2. The Division's database showed that Well No. 2 was last sampled for general mineral and general physical on September 22, 2005.

Inorganic chemical analyses are required to be completed every 36 months. Well No. 2 was last sampled for inorganic chemicals on April 22, 2015, with results meeting all primary drinking water standards. The next round of inorganic chemical monitoring for Well No. 2 is due to be collected by April 30, 2018.

Nitrate

Based on the water quality monitoring schedule, the School is required to collect and analyze Well No. 2 for nitrate annually. Formerly, the lab test was required to quantify the nitrate content as NO_3 with a maximum contaminant level (MCL) of 45 mg/L. Currently, the Lab may also report the data as nitrogen (N) with a MCL of 10 mg/L. Beginning in 2016, all nitrate data must be reported as N as the Division will no longer accept data reported as NO_3 . If the concentration is greater than one-half the MCL, the nitrate monitoring frequency shall be increased to quarterly for at least one year. Well No. 2 was last sampled for nitrate on April 22, 2015, with a result of 3.30 mg/L as NO_3 . The next round of nitrate sampling for Well No. 2 is due to be collected by April 30, 2016.

Arsenic

On January 23, 2006, the U.S. Environmental Protection Agency (USEPA) adopted a revised maximum contaminant level (MCL) for arsenic of 0.010 mg/L (milligrams per liter) or 10 ug/L (micrograms per liter). The Division also adopted a revised arsenic MCL of 0.010 mg/L on November 28, 2008. Well No. 2 was sampled for arsenic in April 2015 and the result was non-detect. The next round of arsenic sampling for Well No. 2 is due to be collected by April 30, 2018.

Perchlorate

The Division adopted a drinking water standard for perchlorate which became effective on October 18, 2007. The perchlorate drinking water standard applies to all community and nontransient-noncommunity water systems. The perchlorate MCL is 0.006 mg/L (6 ppb). All community and nontransient-noncommunity water systems were required to satisfy the initial monitoring requirements for perchlorate. Initial perchlorate monitoring consists of two samples taken 5 to 7 months apart. If the initial samples have perchlorate levels below the detection limit for purposes of reporting (DLR), the monitoring frequency may be reduced to once every 36 months. The School has completed the initial monitoring of Well No. 2 for perchlorate with results reported as non-detect for both initial samples. Subsequent perchlorate monitoring should be done every 36 months, along with the rest of the inorganic chemicals. The next perchlorate sample for Well No. 2 is due to be collected by July 31, 2016.

Hexavalent Chromium

The adoption of the California hexavalent chromium MCL of 0.010 mg/L became effective on July 1, 2014. As a nontransient-noncommunity water system, Charleston School is required to comply with the new MCL. The regulation requires monitoring for hexavalent chromium to be initiated within six months of the adoption date. Well No. 2 was sampled for hexavalent chromium on November 5, 2014, with a result of non-detect. Because the results were less than the hexavalent chromium MCL, total chromium can be used in lieu of hexavalent chromium analysis for subsequent routine monitoring. The next total chromium sampling is due to be collected by April 30, 2018.

Volatile Organic Chemicals (VOCs)

Initial monitoring for volatile organic chemicals (VOCs) consists of four consecutive quarters or three consecutive years of sampling at each source. If initial results are non-detect, then the routine sampling frequency is once every 6 years. Well No. 2 was last sampled for VOCs on December 15, 2011, and the results were all non-detect. The next round of VOC sampling for Well No. 2 is due to be collected by December 31, 2017.

Synthetic Organic Chemicals (SOCs)

Initial monitoring for synthetic organic chemicals (SOCs) including Alachlor, Atrazine, DBCP, EDB, and Simazine consists of four consecutive quarters or three consecutive years of sampling at each source. If initial results are non-detect, then the routine sampling frequency is once every 3 years. Well No. 2 was last sampled for SOC's on April 22, 2015, and the results were all non-detect. Therefore, the School is due to collect the next round of SOC's by April 30, 2018.

Radionuclides

The California Radionuclide Rule became effective on June 11, 2006. Initial monitoring requirements under the California Radionuclide Rule consist of four consecutive quarters of sampling. If the first two quarterly sample results are less than the DLR, the final two quarters of sampling may be waived. If the gross alpha (GA) activity is more than 5 pCi/L, uranium must be analyzed and the analysis results for uranium may be used to obtain the total radium activity (gross alpha – uranium = total radium). If the GA activity is below the DLR (3 pCi/L), and the sample was not analyzed for total radium and uranium, the monitoring frequencies for total radium and uranium would be once every nine years because at this level GA particle activity can be substituted for total radium and uranium.

The School completed the initial GA monitoring for Well No. 2 on September 25, 2015, and the GA levels were non-detect. The subsequent monitoring frequency for GA is based on the most recent sample results. The School's current monitoring frequency for GA is once every nine years. The next GA sample for Well No. 2 is due September 2024. Refer to the water quality monitoring schedule in Attachment F for more detailed information regarding radiological requirements.

Bacteriological – Raw Water

Because the School does not continuously disinfect its drinking water, there is no requirement to monitor the well for bacteriological contaminants. It should be noted that the raw water source must be monitored for *E. coli* bacteria if a routine distribution sample is ever positive for total coliform bacteria, as required by the Groundwater Rule.

3.1 DISTRIBUTION SYSTEM MONITORING

Bacteriological – Distribution System

Based on the population served, the School is required to collect and analyze one bacteriological sample per month from within the distribution system. A Bacteriological Sample Siting Plan (BSSP) was created following the inspection, with the assistance of Hector Garcia. The BSSP provides the location of one routine sample site with

corresponding repeat sampling locations. It also identifies 4 additional routine sample sites along with repeat sites that will be sampled the month following a month in which a routine sample tests positive for total coliform bacteria. Well No. 2 is identified as the third repeat site following a total coliform positive. A review of the data revealed that the School has not had any total coliform positive samples collected since the Division assumed primacy on April 1, 2014.

Lead and Copper Rule Monitoring

The School completed the initial monitoring requirements for lead and copper tap monitoring and is now allowed to collect the reduced number of 5 triennial samples. The 90th percentile for lead should be less than 0.015 mg/L and the 90th percentile for copper should be less than 1.3 mg/L. The School conducted lead and copper tap monitoring in 2013. The 90th percentile result was 0.00 mg/l for lead and 0.00 mg/l for copper. Lead and copper tap monitoring is required during the months of June, July, August or September. The School is required to collect its next round of triennial samples in the summer of 2016. A copy of the Lead and Copper Tracking Report for the School is attached (Attachment H).

III. SYSTEM APPRAISAL

The School has been constructed according to waterworks standards in effect at the time of construction. The bacteriological history of the system is satisfactory. Chemical monitoring data shows that the water produced by the wells meet all primary drinking water standards. The School is in good overall condition and is capable of supplying safe and potable water to all customers. The maximum day demand is not known because the School does not monitor water production.

IV. CONCLUSIONS AND RECOMMENDATIONS

It is the Finding of the Drinking Water Field Operations Branch of the State Water Resources Control Board that the Charleston School Water System is capable of supplying water that complies with all primary drinking water standards with competent operation of the existing water system. It is, therefore, recommended that a revised domestic water supply permit be granted to the Charleston School Water System to continue operation of the existing system subject to the following provisions:

1. The permitted active source for the School is Well No. 2 (PS Code 2400091-011). The Merced District Office of the Drinking Water Field Operations Branch (DWFOB) must permit all other sources before they can be used in the water system.
2. Well 1 North (PS Code 2400091-001) is designated as inactive. Inactive sources are not approved sources of supply and must be locked out, physically disconnected, or otherwise isolated so that only an intentional act by an operator, and no automatic

response, can place the source in service. Inactive sources can only be used as a last resort in extreme emergencies after all other active sources of supply have been utilized. Any use of an inactive source is subject to the following restrictions:

- a. Emergency notification to the consumers that the water is unsafe for domestic use must be given immediately preceding, and on a continuing basis, during the duration of the emergency use of the source.
 - b. Initiation of the use of an inactive source must be the result of an intentional manual action by the system operator.
 - c. The use of an inactive source shall not be initiated without the knowledge and approval of the Division.
 - d. All monitoring as deemed appropriate by the Division shall be required during or immediately following an emergency use of an inactive source.
3. The School must comply with the attached water quality monitoring schedule for Well No. 2. All water quality monitoring results obtained in a calendar month must be submitted to the Division via electronic data transfer (EDT) by the tenth day of the following month.
 4. No additions, changes or modifications to the source of water supply outlined in Provision No. 1 can be made without prior receipt of an amended domestic water supply permit from the Division.
 5. The distribution system is classified as a D1 system in accordance with Title 22 of the California Code of Regulations. As such, the chief operator must have a D1 license or higher. In the event of a change in operator, Charleston School must provide the Division with the name and a copy of the operator's certification within thirty days.
 6. The School shall submit plans and specifications for all proposed sources of supply and/or water treatment projects to the Division for review and approval prior to construction.
 7. The School shall submit an Annual Report to the Drinking Water Program (ARDWP) each year, documenting specific water system information for the prior year. The report shall be in the format specified by the Division.
 8. Beginning March 2016, the School must monitor and record the total amount of water produced by Well No. 2 on at least a monthly frequency and report the total yearly production to the Division via the electronic Annual Report (<http://drinc.ca.gov/ear/home.aspx>) at the beginning of each calendar year.

Report Prepared By:

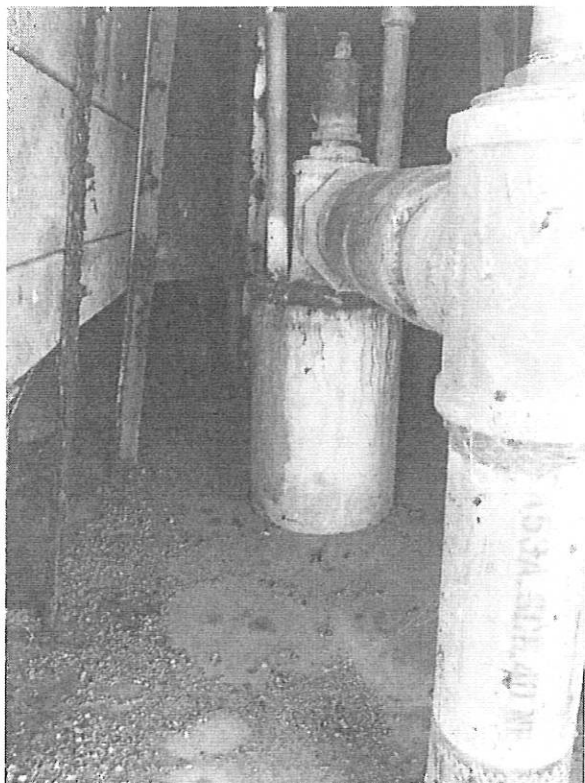
Jason Cunningham,
Student Assistant

Attachment A:	Inspection Photos – August 8, 2015
Attachment B:	Emergency Chlorination Plan Guidelines and Template
Attachment C:	Cross-Connection Control Program Guidelines
Attachment D:	Bacteriological Sample Siting Plan
Attachment E:	Boil Water Order – Tier 1 Public Notification Template
Attachment F:	Water Quality Monitoring Schedule
Attachment G:	Last Sample/Next Due Monitoring Schedule
Attachment H:	Lead and Copper Tracking Report

ATTACHMENT A:

Inspection Photos – August 8, 2015

Inspection Photos
Charleston School Water System
2400091
August 8, 2015

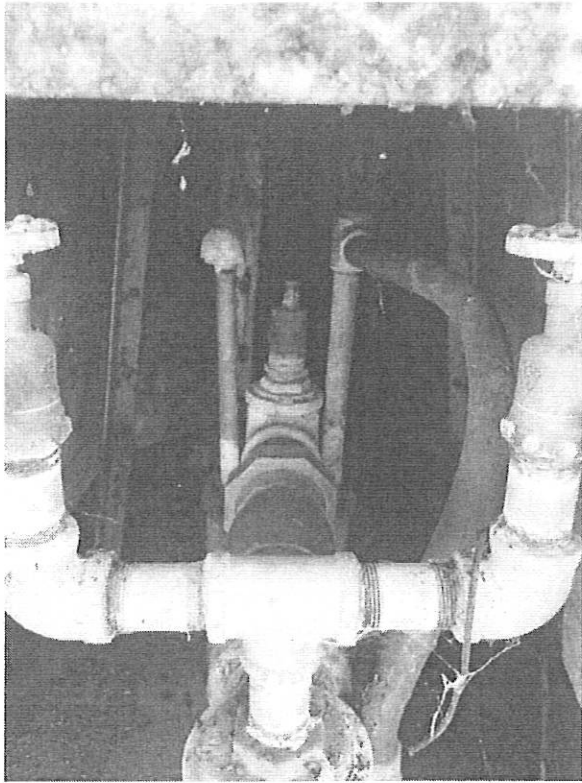


Picture No. 1 - Well No. 2 was drilled in 2005 to a depth of 500 feet via the rotary drilling method. Well No. 2 contains an 8-inch diameter PVC casing to a depth of 500 feet. The well is perforated between 400 feet and 500 feet.

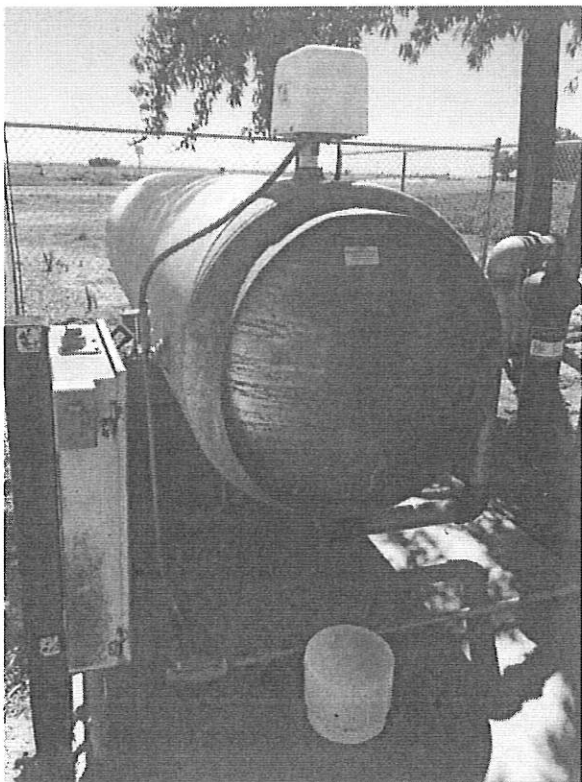


Picture No. 2 - Well No. 2 is located south of the campus, and is on a concrete pedestal that is approximately 4 feet by 4 feet and 4 inches above surrounding ground. The well is secured inside a wooden enclosure.

Inspection Photos
Charleston School Water System
2400091
August 8, 2015

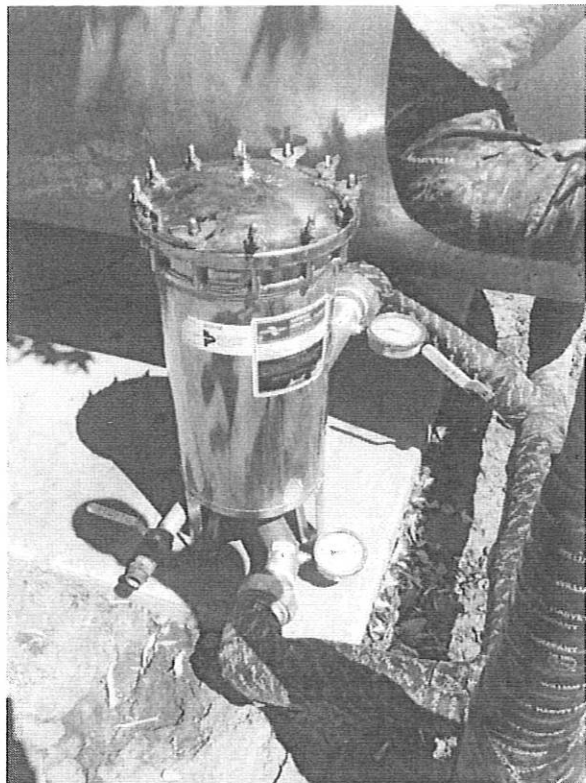


Picture No. 3 - The discharge piping from the well includes a check valve, casing vent (downturned and screened), two hosebibs, sand filter, and a steel pressure tank. The discharge piping from the well does not include a flow meter prior to the line entering the pressure tank.



Picture No. 4 - System pressure for Well No. 2 is provided through a 1,000-gallon (approximate) steel pressure tank situated next to Well No. 1. At the time of the inspection, the pressure tank gauge reading was 49 psi.

Inspection Photos
Charleston School Water System
2400091
August 8, 2015



Picture No. 5 - The School is equipped with a Harmsco Industrial Filter on the inlet piping into the steel pressure tank to collect sand produced by Well No. 2.

ATTACHMENT B:

Emergency Chlorination Plan Guidelines and Template

State Water Resources Control Board
Division of Drinking Water

State Water Resources and Control Board
July 2014

EMERGENCY DISINFECTION PLAN REQUIREMENTS

An emergency disinfection plan, designed to outline procedures in the event of bacteriological contamination, shall be developed and a copy submitted to our office. The plan shall outline specific response procedures for disinfection of wells, pressure tanks, storage tanks and installation of emergency chlorination equipment. Guidance on the operation of the emergency disinfection equipment, to be included in the Emergency Disinfection Plan, is included in the attached document (Emergency Disinfection Plan Guidance).

The plan shall state that the necessary equipment is on-site or readily available and the means by which to connect and activate it have been provided. Those items needed to accommodate emergency chlorination equipment include:

- An all weather, 110 volt electrical receptacle, energized by the well pump operation.
- A three-quarter (3/4) inch threaded tap on the piping downstream of the well check valves for use as a chlorine injection point.
- A sample tap (non-threaded) at least three to six feet downstream of the chlorine injection point.

The plan should further state that qualified personnel (specify who) are under contract to carry out the plan and install, adjust and operate the equipment as necessary. The plan should also include the treatment or distribution operator certification grade and emergency telephone numbers of water system staff and certified operator(s).

Attachment: Emergency Disinfection Plan Guidance

Emergency Disinfection Plan Guidance for Public Water Systems

The purpose of this Emergency Disinfection Plan (EDP) is to assist utilities implement emergency chlorination. The guidance provided below is designed to facilitate the installation of emergency chlorination equipment and to assist in the setting of chemical dosage in order to maintain acceptable free chlorine residual needed to insure public health protection immediately after a disaster. Items which should be obtained prior to the onset of a disaster include the following equipment:

1. Emergency chlorination units.
2. Chlorine residual test kits (preferably DPD)
3. Granular Calcium Hypochlorite, 65% available chlorine, (liquid sodium hypochlorite has a relatively short shelf life so it is advisable that it not be purchased in advance). Chemicals used for emergency chlorination must be approved under ANSI/NSF¹ Standard 60 (direct additives).

Installation Procedures

A utility should not wait until an emergency has occurred before it attempts to install its emergency chlorination equipment. It is advisable that all field maintenance staff be familiar with the installation procedures in order to quickly install the emergency chlorination equipment. The remainder of this plan addresses the use of hypochlorinators in the event of an emergency. For those utilities which use gas chlorination units, they should already be familiar with their operation if they are using this type of equipment.

The chlorination equipment purchased by the utility must be adequately sized for the proposed installation. The feed capacity of the hypochlorinator should allow the utility to do at a minimum of 5 parts per million free chlorine residual. After the emergency chlorination units have been physically connected to the wells and/or other sources in question, refer to the attached table or use the following procedures to calculate the appropriate settings. If you are unable to perform these calculations, contact a staff of the Drinking Water Program immediately.

The attached tables may be used to mix a solution of a known strength. Decide on a solution strength that you wish to use and find the amount of chlorine needed for a 100 gallon barrel from Table 1.

Table 2 can be used to determine the volume of solution to be added for different flow rates for each mg/L of chlorine dosage. It should be recognized that large capacity wells will need stronger solution strengths or the feed barrel will need to be filled too frequently. The volumes in table 2 are in gallons per day (gpd). If the feed pump capacity is given in gallons per hour, then the volume from Table 2 must be divided by 24 to give a gph value.

To determine the appropriate pump setting, the value from Table 2 must be divided by the feed pump capacity.

Example:

Feed Pump Capacity = 10 gph; Q = 1500 gpm; 7% solution; 5 mg/L dosage

From table 2 → Chlorine Volume = 30.9 gpd for each mg/L.

For 5 mg/L → $5 \times (30.9) = 154.5$ gpd

Since feed pump has a maximum capacity of 10 gph, the appropriate length of stroke setting is:

$$\frac{154.5 \times 24}{10 \text{ gph}} = 0.64$$

Outlined below are the equations to use if the Tables are not used:

1. A solution barrel of a known volume must be obtained. The barrel should be filled with a known volume of water. To this volume, a known weight of chemical should be added. The solution strength must be determined using the equation given below:

$$\% \text{ solution} = \frac{\text{Weight of chemical added to solution barrel (lbs)}}{\text{Weight of water in solution barrel (lbs)}} \times 100$$

(1 gallon of water weighs 8.34 lbs)

A 6% solution can be obtained by adding one half pound of chemical per gallon of water using a 100 gallon barrel. (see below):

$$50 / (100 \times 8.34 \text{ lb/gal of water}) \times 100 = 5.99 \text{ or } 6\%$$



used to get percentage

To calculate the pounds per hour of chemical that must be added to obtain a know chlorine concentration, the following equation must be used:

Equation #1:

$$\text{lbs per hour of chemical} = 8.34 \times \text{desired dosage in ppm} \times \text{flow rate in gpm} \times 60 \text{ min}/1,000,000$$

Assuming the desired dosage is 5 ppm that gives the following equation:

Equation #2: lbs per hour of chemical = 2.5×10^{-3} x flow rate in gpm

Next you must determine the required gallons per hour of chemical to be added. This must be obtained using the following equation:

Equation #3:

gallons per hour of chemical = lbs per hour / 8.34 / solution strength / 100 (from above)

Once this value has been obtained, then the next step is to review the maximum feed rate in gallons per day of the chemical feed pump. This is generally printed in a label attached to the pump and it may specify the discharge pressure this maximum rate applies to. Most chemical feed pumps have either a length of stroke setting or two settings for frequency of stroke and length of stroke. To determine what settings should be used, a review of the instrumentation on the pump must be conducted.

If two control settings are provided, then set the frequency control at 100% and provide adjustment only to the length of stroke adjustment. The equation to be used to determine at what setting the length of stroke should be, is given below:

Percent length of stroke = gallons per hour (obtained above) x 24 x 100 / the pump capacity in gpd

This numerical setting should be used when adjusting the pump. If both pump settings are to be changed from 100%, then the percent stroke equation is as follows:

Percent length of stroke = gallons per hour x 24 x 100 / stroke frequency / pump capacity in gpd

A check on the actual dosage can be performed by using the total gallons of solution pumped within a known operating period. That information can be used as follows:

Actual Dosage = $\frac{\text{gallons of solution} \times \text{solution strength}}{\text{gallons of water treated in MG}}$

An easier way to use hypochlorination equipment is to have calibration or volumetric feed cylinders installed on the intake line to the pump. If these cylinders are available, then a known volume of solution can be pumped and the time it takes to pump that volume is used to determine gallons per hour at a known discharge pressure. The actual percent solution must still be known to conduct the other calculations.

Once a utility has implemented emergency chlorination of their system, it is important to conduct follow up distribution chlorine residual monitoring to determine the effectiveness of the chlorination process. In the event of an emergency, hypochlorination equipment should be used to dose the system at 2 ppm of free chlorine residual. Chlorine residual monitoring within the distribution system should take place to verify that an adequate residual is being obtained

at all locations within the distribution system. Any areas which have suppressed chlorine residuals should receive further investigation to determine whether or not there are other problems associated with the reduced residuals.

Flushing should be provided if possible, to draw the chlorinated water into the distribution system as soon as possible.

In addition to the chlorine residual monitoring, bacteriological sampling of the distribution system in all areas should be conducted. Chlorine residual monitoring in addition to bacteriological sampling should be used to further define areas of distribution system that need additional investigation. Chlorination of the system should continue until it has been verified that no structural problems exist within the distribution system and all bacteriological monitoring shows that there is no presence of pathogenic organisms.

TABLE 1
AMOUNT OF CHLORINE PER 100 GALLON BARREL*

	Solution Strength	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%
Type of Chlorine												
5% Sodium Hypochlorite**		60 gal	80 gal	100 gal								
12.5% Sodium Hypochlorite**		24 gal	32 gal	40 gal	48 gal	56 gal	64 gal	72 gal	80 gal	88 gal	96 gal	
65% Calcium Hypochlorite***		38 lbs	51 lbs	64 lbs	77 lbs	90 lbs	103 lbs	116 lbs	128 lbs	141 lbs	167 lbs	

* Add the quantity indicated to the 100 gallon barrel and then fill the remaining volume with water.

** The sodium hypochlorite must be ANSI/NSF¹ certified for potable drinking water and approved as direct additive (ANSI/NSF Standard 60).

1: American National Standard Institute (ANSI) or National Sanitation Foundation (NSF)

*** HTH, tablets or granular chlorine

Example: For 10% solution using 12.5% sodium hypochlorite, use 80 gallons of sodium hypochlorite and add 20 gallons of water.

Example: For 10% solution using 65% available Calcium Hypochlorite (CaHOCl), use 128 lbs of granular chlorine and add water to fill barrel and mix.

TABLE 2
CHLORINE VOLUME REQUIRED GALLONS PER DAY (GPD) PER MG/L OR PPM OF
DESIRED CHLORINE DOSAGE*

	Solution Strength	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%
Flow Rate												
50 gpm		2.4	1.8	1.4	1.2	1.03	0.9	0.8	0.7	0.7	0.6	0.6
75 gpm		3.6	2.7	2.0	1.8	1.5	1.4	1.2	1.0	1.0	0.9	0.8
100 gpm		4.8	3.6	2.9	2.4	2.0	1.8	1.6	1.4	1.3	1.2	1.1
300 gpm		14.4	10.8	8.6	7.2	6.2	5.4	4.8	4.3	3.9	3.6	3.3
500 gpm		24.0	18.0	14.4	12.0	10.3	9.0	8.0	7.2	6.6	6.0	5.5
800 gpm		38.4	28.8	23.0	19.2	16.5	14.4	12.8	11.5	10.5	9.6	8.9
1000 gpm		48.0	36.0	28.0	24.0	20.6	18.0	16.0	14.4	13.1	12.0	11.1
1500 gpm		72.0	54.0	43.2	36.0	30.9	27.0	24.0	21.6	19.6	18.0	16.6
2000 gpm		96.0	72.0	57.6	48.0	41.1	36.0	32.0	28.8	26.2	24.0	22.2

* Values in the Table are the flow rates in gallons of solution per day that be added for each mg/L of desired dosage.

Example: Well Discharge = 1,000 gpm
 Solution Strength = 5%
 Desired Dosage = 5 mg/L or 5 ppm

From Table 2, Need to add 28.8 gpd per mg/L (or ppm)
 Therefore, 5 mg/L x 28.8 gpd/(mg/L) = 144 gpd.

Emergency Chlorination Plan
<insert Water System Name>
<insert Water System Number>
<insert Date>

In case of a water emergency, loss of pressure (below 5 psi), a routine sample failure or broken water main with the **<insert Water System name>**, the following Emergency Chlorination Plan will take effect.

1. Notify all the <personnel, customers, visitors, campers, etc. > of the water emergency by verbal communication and postings in the in the main area of the building. Please see attached notices.
2. In the event that a routine sample failure occurs, the attached Bacteriological Sample Siting Plan (BSSP) will be followed for repeat, source and follow-up sampling.
3. The SWRCB-DWW, Merced District (559-447-3300) will be notified of a routine sample failure within 24 hours of being notified by <Aqua Lab Water Analysis> or Water System Personnel.
4. Emergency disinfection of the water system will proceed as follows:
 - a. Into a 5-gallon bucket half-filled with water, pour in about <1 ½ cup of Clorox bleach (unscented, no color)> *Calculate based on casing diameter and depth of the well.* The Clorox bleach contains about 5-6% chlorine concentration. The calculated amount of water in the well is about 1117 gallons. The addition 1 ½ cup of Clorox bleach into the well amounts to about 5 mg/l of chlorine concentration.
 - b. Unplug the access hole on the top plate of the wellhead and using the inserted funnel, pour the chlorine solution down the inside of the well.
 - c. Connect a hose that is never been used to the nearest hose bib and circulate the chlorinate water through the hose and down the well. This will mix the chlorine with the well water. You can stop circulating the chlorinated well water when you start smelling chlorine. Pulse the well pump a few times.
 - d. To disinfect the distribution system, open up all faucets located inside and outside the buildings. Let the water run until you smell chlorine then turn it off.
 - e. Allow the chlorinated water to remain in the pipes for at least 6 hours (or overnight).
 - f. Flush the chlorine out of the distribution system by opening all the faucets inside and outside of the buildings until you no longer smell chlorine.

ATTACHMENT C:

Cross-Connection Control Program Guidelines

Cross-Connection Control for Small Community Water Systems

SWRCB-Merced District

Purpose of Cross-Connection Control Program: Water provided by a public water system may be contaminated via cross-connections within the distribution system. The purpose of the cross-connection control program is to reduce the hazard of contamination of the public water system by identifying actual and potential cross-connections and taking action to protect the system from these hazards. This is accomplished by installing backflow prevention assemblies where hazards are identified; or ensuring that water-using equipment on the premises is installed in accordance with plumbing code requirements and good practice.

What are cross-connections?

Cross-connections are actual and potential unprotected connections between a potable water system and any source or system containing unapproved water or a substance which is not safe. Examples of cross-connections include:

1. Improperly installed irrigation systems that may allow backsiphonage of stagnant, bacteriologically unsafe water into the piping system.
2. Improperly plumbed water-using devices such as hot-tubs, boilers or commercial dishwashers which may allow unsafe water back into the domestic piping system.
3. Irrigation systems served by an auxiliary source, such as a private well or creek. Such systems create a potential for major contamination of the public water system via interties with the domestic piping system.
4. Interconnections between the potable system and a non-potable system.

What the Regulations Require

Section 7584 of the California Code of Regulations requires that each public water system have a cross connection control program that includes these elements:

1. The adoption of operating rules or ordinances to implement the cross-connection program.
2. The conducting of surveys to identify water user premises where cross connections exist or are likely to occur.
3. The provisions of backflow protection by the water user at all connections where a cross connection hazard has been identified.
4. The provision of at least one person trained in cross connection control to carry out the program.
5. The establishment of a procedure or system for testing backflow prevention assemblies.
6. The maintenance of records of locations, tests, and repairs of backflow prevention assemblies within each water supplier's distribution system.

Getting Started

For small community water systems, the initial elements of the program consist of the following:

1. Adopting an ordinance or set of rules to implement the cross-connection control program. *A copy of a sample ordinance for small systems is attached.* The ordinance is important since it establishes the legal authority to carry out the program.
2. Conducting a system survey to identify actual and potential cross-connection hazards.
3. Ensuring that hazards are abated by the installation of backflow prevention assemblies at the meter, eliminating the hazard in conjunction with the owner of the property or providing internal cross-connection protection.

System Survey

The system survey consists of a preliminary survey and, if necessary, a more detailed second survey. For most small systems, the initial survey may consist of a questionnaire sent to each customer asking whether the customer has specific potential hazards. Documentation of the system survey is to be submitted to the Department. Attached is a summary form for documentation of the system survey.

Residential areas

Customers should be asked if any of the following are located on-site:

1. Auxiliary water supply (i.e. either a well or a creek pump) - backflow prevention device is mandatory.
2. Irrigation systems - backflow prevention device not required if system is installed in accordance with plumbing codes with appropriate vacuum breakers.
3. Swimming pool, hot tub or spa - backflow prevention device not required if system is installed in accordance with plumbing codes.
4. Solar hot water heating panels - backflow prevention device not required if system is installed in accordance with plumbing codes.
5. Graywater systems - backflow prevention assemblies may not be required if the system is installed in accordance with the Uniform Plumbing Code.

If these or other potential hazards are located on site, the water system is to determine whether the equipment has been installed in accordance with plumbing codes and/or good practice in order to minimize the risk of backflow.

Commercial customers: A more detailed questionnaire and survey is necessary. Small community systems, which also serve commercial customers, should review the Department of Health Service's "Manual of Cross-Connection Control - Procedures and Practices". A system survey of commercial users as specified in the Manual is to be performed. As an alternative, the system may decide to require backflow prevention assemblies at all commercial service connections where hazards are likely to exist.

Wastewater and Hazardous Wastes: A service connection which handles wastewater or dangerous chemicals requires special evaluation and protection from cross-connection hazards. For additional information on evaluating this type of facility, please contact the appropriate regulatory agency and a cross-connection control specialist.

ELEMENTS OF A CROSS-CONNECTION CONTROL PROGRAM

SWRCB- Merced District

When implementing a Cross-Connection Control Program, the water supplier or health agency should follow an organized plan. The following items should be included as a minimum. The items **explain the Department's policy regarding the regulations.**

7584. Responsibility and Scope of Program

The water supplier shall protect the public water supply from contamination by implementation of a cross-connection control program. The program, or any portion thereof, may be implemented directly by the water supplier or by means of a contract with the local health agency, or with another agency approved by the health agency. The water supplier's cross-connection control program shall for the purpose of addressing the requirements of Sections 7585 through 7605 include, but not limited to, the following elements:

(1) *The adoption of operating rules or ordinances to implement the cross-connection program.*

A public water supplier shall enact an ordinance or rule of service outlining the cross-connection control program and providing enforcement authority.

(2) *The conducting of surveys to identify places where cross-connections are likely to occur.*

Water utilities do not have any responsibility for controlling or abating cross-connections on a user's premises. All existing facilities where potential cross-connections are suspected, however, shall be listed and inspected or reinspected on a priority basis, where feasible. All applications for new services or for enlarging existing services or changing of occupant shall be reviewed or screened for cross-connections hazards

(3) *The provision of backflow protection at the user's connection or within the user's premises or both.*

Adequate provisions for implementation and enforcement of backflow protection where needed including the shutting off service when necessary

4) *The provision of at least one person trained in cross-connection control to carry out the cross-connection program.*

Specific units of the health agency and/or water supplier should be designated to organize and carry out the cross-connection control program. The personnel in those units should be trained as to the causes and hazards of unprotected cross-connections.

(5) *The establishment of a procedure or system for testing backflow preventers.*

A list of approved backflow preventers and list of certified testers should be made available to each water user required to provide backflow protection.

The list may include backflow devices approved by University of Southern California, Foundation for Cross-Connection Control and IAPMO, which may be found on the SWRCB website at the following address:

http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Publications.shtml

The List of certified testers may be lists developed by the American Water Works Association and local county health agencies.

Backflow preventers should be tested at least yearly or more often as required by the health agency or water supplier.

(6) *The maintenance of records of locations, tests and repairs of backflow preventers*

Adequate records should be kept and filed for reference. These records should include, in addition to the name of the owner of the premises, the:

- a) Date of inspection
- b) Results of inspection
- c) Required protection
- d) List of all backflow preventer devices in the system
- e) Test and maintenance reports
- f) All correspondence between the water supplier, the local health authority, and the consumer
- g) Records must be maintained for a minimum of three years

Records of inspection and testing should be evaluated to determine if:

- a) Devices are frequently or sufficiently reviewed to detect failure.
- b) There are unusual feature of a particular model of device or component.
- c) Cause of failure can be eliminated.

A program should be established to notify the water user when his backflow preventer must be tested. (A minimum of once each year is required.) After installation or repair, a backflow preventer should be tested and approved before it is accepted.

7605. Testing and Maintenance of Backflow Preventers

Regulations require the following regarding testing and maintenance of backflow prevention devices:

- (a) The water supplier shall assure that adequate maintenance and periodic testing are provided by the water user to ensure their proper operation.
- (b) Backflow preventers shall be tested by persons who have demonstrated their competency in testing of these devices to the water supplier or health agency.
- (c) Backflow preventers shall be tested at least annually or more frequently if determined to be necessary by the health agency or water supplier. When devices are found to be defective, they shall be repaired or replaced in accordance with the provisions of this Chapter.
- (d) Backflow preventers shall be tested immediately after they are installed, relocated or repaired and not placed in service unless they are functioning as required.
- (e) The water supplier shall notify the water user when testing of backflow preventers is needed. The notice shall contain the date when the test must be completed.
- (f) Reports of testing and maintenance shall be maintained by the water supplier for a minimum of three years.

Cross-Connection Survey Summary Form-Small Community Water Systems

Name of System _____ System Number _____

Description of Survey Procedures-How survey was conducted, (include copy of survey form):
Person conducting survey (List name and qualifications):

Procedures for Residential Connections:

Procedures for Commercial Connections:

Total number of service connections _____ Number of service connections surveyed _____

Number of connections with auxiliary sources (i.e. wells or creek pumps) _____

Number of connections with other hazards _____

Total number of backflow prevention devices _____

Type of Hazard Identified(i.e. private well, hot tub, irrigation system, swimming pool, etc)	Number of connections with hazard	Number of devices installed	Number where device not necessary

Describe follow-up for service connections that did not respond to the survey:

Long-term (Describe on-going cross-connection protection & testing of backflow prevention assemblies)

Submitted by (signature) _____ Date _____

**MODEL ORDINANCE NO.2 - "SHORT" VERSION
AN ORDINANCE OF THE {Water Supplier's Name}
INSTITUTING A CROSS-CONNECTION CONTROL PROGRAM TO
PROTECT THE PUBLIC WATER SYSTEM**

THE {Water Supplier} DOES ORDAIN AS FOLLOWS:

SECTION I – PURPOSE

The purpose of this ordinance is to protect the public water supply system from contamination due to potential and actual cross-connections. This shall be accomplished by the establishment of a cross-connection control program as required by State regulations. This ordinance is adopted pursuant to Title 17, Section 7583 - 7605, inclusive, of the California Code of Regulations, entitled "Regulations Relating to Cross-Connections".

SECTION II – RESPONSIBILITY

The {General Manager/cross-connection control specialist} shall be responsible for implementing and enforcing the cross-connection control program. An appropriate backflow prevention assembly shall be installed by and at the expense of the water user at each user connection where required to prevent backflow from the water user's premises to the domestic water system. It shall be the water user's responsibility to comply with the {Water Supplier}'s requirements.

SECTION III - CROSS-CONNECTION PROTECTION REQUIREMENTS

The type of protection that shall be provided to prevent backflow into the public water supply system shall be commensurate with the degree of hazard, actual or potential, that exists on the water user's premises. Unprotected cross-connections with the public water supply are prohibited. The type of backflow prevention assembly that may be required (listed in decreasing level of protection) includes: Air-gap separation (AG), Reduced Pressure

Principle Backflow Prevention Assembly (RP), and a Double Check Valve Assembly (DC). The water user may choose a higher level of protection than required by the water supplier. The minimum types of backflow protection required to protect the approved water supply at the user's water connection to premises with varying degrees of hazard are listed in Table 1 of Section 7604, Title 17. Situations which are not covered in Table 1 shall be evaluated on a case-by-case basis and the appropriate backflow protection shall be determined by the water supplier or health agency.

SECTION IV - BACKFLOW PREVENTION ASSEMBLIES

Only backflow prevention assemblies, which have been approved by the {Water Supplier} shall be acceptable for installation by a water user. A list of approved backflow prevention assemblies Will be provided upon request to any affected customer. Backflow prevention assemblies shall be Installed in a manner prescribed in Section 7603, Title 17. Location of the assemblies shall be as close as practical to the user's connection. The {Water Supplier} shall have the final authority in determining the required location of a backflow prevention assembly.

Testing of backflow assemblies shall be conducted only by qualified testers and testing will be the responsibility of the water user. Backflow prevention assemblies must be tested at least annually and immediately after installation, relocation or repair. More frequent testing may be required if deemed necessary by the {Water Supplier}. No assembly shall be placed back in

service unless it is functioning as required. These assemblies shall be serviced, overhauled, or replaced whenever they are found to be defective and all costs of testing, repair, and maintenance shall be borne by the water user. Approval must be obtained from the {Water Supplier} prior to removing, relocating or replacing a backflow prevention assembly.

SECTION VI – ADMINISTRATION

The cross-connection control program shall be administered by the {General Manager/ cross-connection control specialist}. The {Water Supplier} will establish and maintain a list of approved backflow prevention assemblies as well as a list of approved backflow prevention assembly testers. The {Water Supplier} shall conduct necessary surveys of water user premises to evaluate the degree of potential health hazards. The {Water Supplier} shall notify users when an assembly needs to be tested. The notice shall contain the date when the test must be completed.

SECTION VII - WATER SERVICE TERMINATION

When the {Water Supplier} encounters water uses that represent a clear and immediate hazard to the potable water supply that cannot be immediately abated, the procedure for terminating water service shall be instituted. Conditions or water uses that create a basis for water service termination shall include, but are not limited to, the following:

1. Refusal to install or to test a backflow prevention assembly, or to repair or replace a faulty backflow prevention assembly.
2. Direct or indirect connection between the public water system and a sewer line.
3. Unprotected direct or indirect connection between the public water system and a system or equipment containing contaminants.
4. Unprotected direct or indirect connection between the public water system and an auxiliary water system.

For condition 1, the {Water Supplier} will terminate service to a water user's premises after proper notification has been sent. If no action is taken within the allowed time period water service shall be terminated.

For conditions 2, 3, or 4, the {Water Supplier} shall take the following steps:

1. Make reasonable effort to advise the water user of intent to terminate water service;
2. Terminate water service and lock service valve. The water service shall remain inactive until correction of violations has been approved by the {Water Supplier}.

SECTION VII - EFFECTIVE DATE

This Ordinance shall supersede all previous cross-connection control ordinances and shall take effect thirty (30) days from the date of its adoption. Before the expiration of fifteen (15) days after its adoption this Ordinance shall be published in the _____, a newspaper of general circulation, printed and published in _____.

ATTACHMENT D:

Bacteriological Sample Siting Plan

ATTACHMENT B (see p. 6 of instructions)
BACTERIOLOGICAL SAMPLE SITING PLAN

System No.: 2400091	System Name: Charleston School		
PWS Classification: NTNC	No. Monthly Users:	Daily Users: 325	
No. Active Service Connections: 1	Distribution Sampling Frequency: 1/M		
Source Sampling Frequency: Following TC+		Continuous Water Treatment: Ø	
Name of Trained Sampler:		Analyzing Lab: Far West Labs	
Person responsible to report coliform-positive samples to Division		Day/Evening Phone No.:	
Signature of Water System Representative: _____ Date: _____			

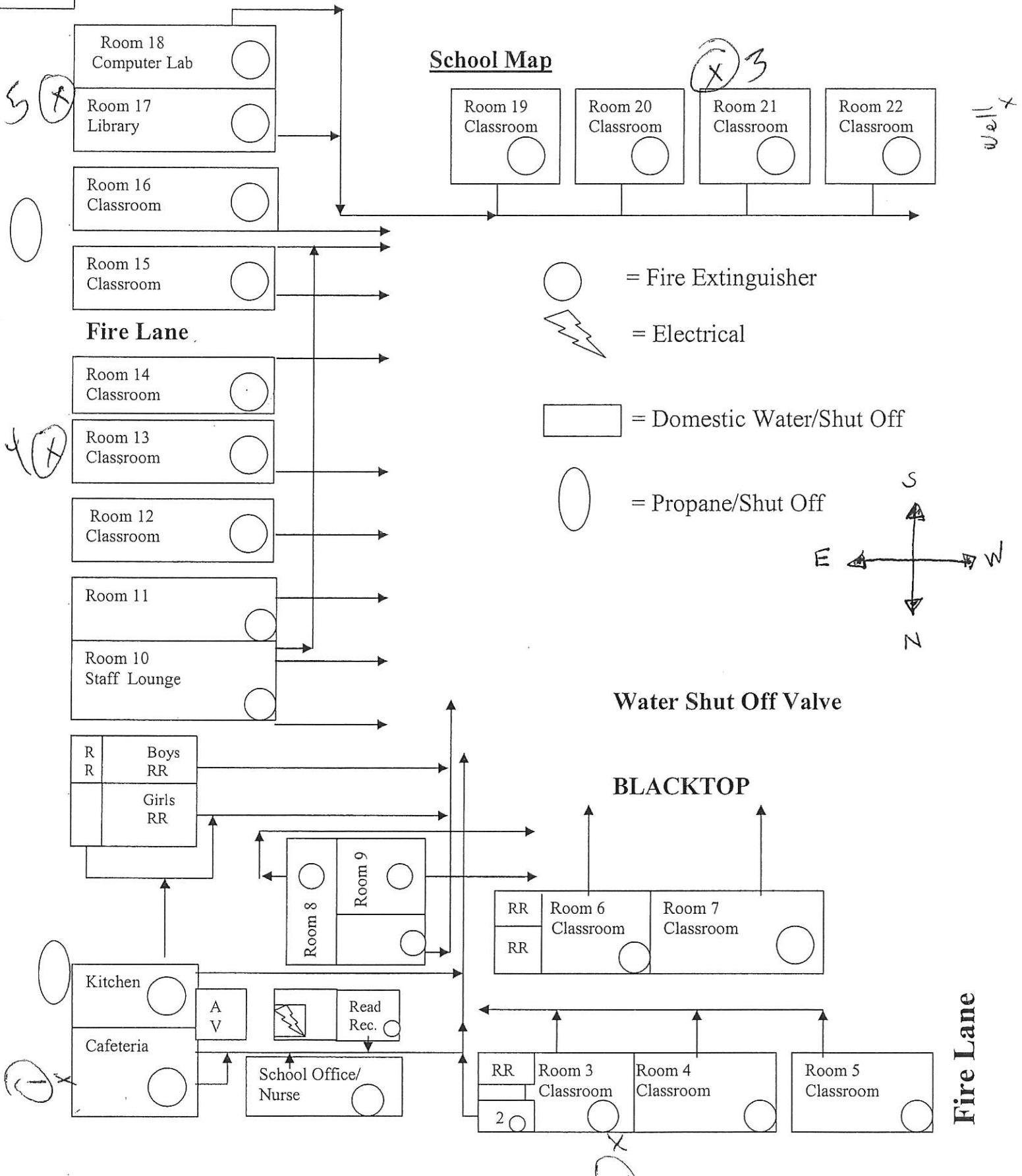
Sample ID	Sample Type	Sample Point	Location of Sample Point	Address of Sample Point	Months Sample Collection at this Location
1-ROU	Routine	HB	HB	HB at Cafeteria	Monthly
1-REP1	Repeat	HB	HB	HB at Room 17 Library	Repeat Sample Only
1-REP2	Repeat	HB	HB	HB at Room 3 Classroom	Repeat Sample Only
1-REP3	Repeat	HB	HB	Well No. 2	Repeat Sample Only
2-ROU	Routine	HB	HB	HB at Room 3 Classroom	Following TC+
2-REP1	Repeat	HB	HB	HB at Cafeteria	Repeat Sample Only
2-REP2	Repeat	HB	HB	HB at Room 21 Classroom	Repeat Sample Only
2-REP3	Repeat	HB	HB	Well No. 2	Repeat Sample Only
3-ROU	Routine	HB	HB	HB at Room 21 Classroom	Following TC+
3-REP1	Repeat	HB	HB	HB at Room 13 Classroom	Repeat Sample Only
3-REP2	Repeat	HB	HB	HB at Room 3 Classroom	Repeat Sample Only
3-REP3	Repeat	HB	HB	Well No. 2	Repeat Sample Only
4-ROU	Routine	HB	HB	HB at Room 13 Classroom	Following TC+
4-REP1	Repeat	HB	HB	HB at Cafeteria	Repeat Sample Only
4-REP2	Repeat	HB	HB	HB at Room 17 Library	Repeat Sample Only
4-REP3	Repeat	HB	HB	Well No. 2	Repeat Sample Only
5-ROU	Routine	HB	HB	HB at Room 17 Library	Following TC+
5-REP1	Repeat	HB	HB	HB at Cafeteria	Repeat Sample Only
5-REP2	Repeat	HB	HB	HB at Room 21 Classroom	Repeat Sample Only
5-REP3	Repeat	HB	HB	Well No. 2	Repeat Sample Only

If the water system has one or more total coliform-positive samples, at least five routine samples will be collected the following month.

Charleston Elementary School
 18463 W. Charleston Rd
 Los Banos, CA 93635
 (209) 826-5270



School Map



ATTACHMENT E:

Boil Water Order – Tier 1 Public Notification Template

Date:

UNSAFE WATER ALERT

[Insert one-liner language other than Spanish here, if needed, otherwise delete.]

**[System Name] water is possibly contaminated
with [an unknown substance]**

DO NOT DRINK YOUR WATER

Failure to follow this advisory could result in illness.

An unknown substance has been added to the drinking water supplied by the [Water System Name] due to a recent [intrusion; break-in] at [one of the wells; our treatment plant; storage tank; specific facility]. The State Water Resources Control Board, [County Name] County Health Department, and [Water System name] Water System are advising residents of [City, Town, System] to NOT USE THE TAP WATER FOR DRINKING AND COOKING UNTIL FURTHER NOTICE.

What should I do?

- **DO NOT DRINK YOUR TAP WATER---USE ONLY BOTTLED WATER.** Bottled water should be used for all drinking (including baby formula and juice), brushing teeth, washing dishes, making ice and food preparation **until further notice.**
- **DO NOT TRY AND TREAT THE WATER YOURSELF.** Boiling, freezing, filtering, adding chlorine or other disinfectants, or letting water stand will not make the water safe.
- Optional: Potable water is available at the following locations: [List locations]
Please bring a clean water container (5 gallons maximum capacity).

We will inform you when tests show that the water is safe again. We expect to resolve the problem within [estimated time frame].

For more information call:

Water Utility contact: [Name, title, phone & address of responsible utility representative].

State Water Resources Control Board at: [insert local district office, DE and phone number].

Local County Health Department: [insert phone number of local health department].

This notice is being sent to you by [insert water system name]. California Public Water System ID # [XXXXXXX]. Date Distributed: [date].

Please share this information with all other people who receive this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand.

ATTACHMENT F:

Water Quality Monitoring Schedule

WATER QUALITY MONITORING SCHEDULE
Nontransient Noncommunity System, groundwater/agricultural (PTGA)
UPDATED - September 2015

Chemical - Title 22	MCL (mg/L)	EPA Method	Frequency (1)
Primary Inorganics - Section 64432			
Aluminum	1		Every 3 years
Antimony	0.006		Every 3 years
Arsenic	0.010		Every 3 years
Barium	1		Every 3 years
Beryllium	0.004		Every 3 years
Cadmium	0.005		Every 3 years
Chromium (Total Chromium)	0.05		Every 3 years (2)
Hexavalent Chromium (Chrome 6)	0.010	218.6 or 218.7	1 sample (2)(3)
Cyanide	0.15		Waived
Fluoride	2.0		Every 3 years
Mercury	0.002		Every 3 years
Nickel	0.1		Every 3 years
Perchlorate	0.006		Every 3 years (4)
Selenium	0.05		Every 3 years
Thallium	0.002		Every 3 years
Asbestos - Section 64432.2			
Asbestos - Source Water	7 MFL		Waived
Asbestos - Distribution System sampling if Asbestos-Cement pipe used	7 MFL		Every 9 years if Aggressive Index \leq 11.5
Nitrate/Nitrite - Section 64432.1			
Nitrate (as N)	10		Annually if \leq 5 mg/L (5)
Nitrite (as nitrogen)	1		Every 3 years if \leq 0.5 mg/L (6)
Nitrate + Nitrite (sum as nitrogen)	10		N/A
Secondary Standards - Table 64449-A			
Aluminum	0.2		Once only
Color	15		Once only
Copper	1.0		Once only
Foaming Agents	0.5		Once only
Iron	0.3		Once only
Manganese	0.05		Once only
Methyl-tert-butyl ether (MTBE)	0.005	502.2, 524.2	See MTBE frequency on page 2
Odor	3		Once only
Silver	0.1		Once only
Thiobencarb	0.001		Waived
Turbidity	5		Once only
Zinc	5		Once only
General Minerals - Section 64449			
Bicarbonate	N/A		Once only
Carbonate	N/A		Once only
Hydroxide Alkalinity	N/A		Once only
Calcium	N/A		Once only
Magnesium	N/A		Once only
Sodium	N/A		Once only
Hardness	N/A		Once only
pH	N/A		Once only
Secondary Standards - Table 64449-B			
TDS	500-1000;1500		Once only
Specific Conductance	900-1600; 2200		Once only
Chloride	250-500;600		Once only
Sulfate	250-500;600		Once only

MCL = Maximum Contaminant Level

Contact your district office with any questions.

- (1) Sampling shall be increased to quarterly following any result > MCL.
- (2) After initial hexavalent chromium monitoring, total chromium may be used if total chromium results are < 0.010 mg/L.
If total chromium result is \geq 0.010 mg/L, monitoring for hexavalent chromium will be required.
- (3) Hexavalent chromium shall be increased to quarterly sampling following any result > 0.010 mg/L.
- (4) Perchlorate: This frequency applies if there were no detections in the initial monitoring.
- (5) Nitrate (as N) replaces Nitrate (as NO₃). Nitrate (as N) sampling shall increase to quarterly following any result \geq 5 mg/L.
Upon request, this may be reduced to an annual frequency after 4 quarters of monitoring. Beginning with Jan. 1, 2016, water systems shall comply with the Nitrate (as N) requirement.
- (6) Nitrite sampling shall be increased to quarterly following any result \geq 0.5 mg/L. Upon request, this may be reduced to an annual frequency after 4 quarters of monitoring.

WATER QUALITY MONITORING SCHEDULE
Nontransient Noncommunity System, groundwater/agricultural (PTGA)
UPDATED - September 2015

Chemical - Title 22	MCL (mg/L)	EPA Method	Frequency (1)
VOCs - Table 64444-A (a)			
Benzene	0.001	502.2, 524.2	Every 6 years
Carbon Tetrachloride	0.0005	502.2, 524.2	Every 6 years
1,2-Dichlorobenzene	0.6	502.2, 524.2	Every 6 years
1,4-Dichlorobenzene	0.005	502.2, 524.2	Every 6 years
1,1-Dichloroethane	0.005	502.2, 524.2	Every 6 years
1,2-Dichloroethane	0.0005	502.2, 524.2	Every 6 years
1,1-Dichloroethylene	0.006	502.2, 524.2	Every 6 years
cis-1,2-Dichloroethylene	0.006	502.2, 524.2	Every 6 years
trans-1,2-Dichloroethylene	0.01	502.2, 524.2	Every 6 years
Dichloromethane	0.005	502.2, 524.2	Every 6 years
1,2-Dichloropropane	0.005	502.2, 524.2	Every 6 years
1,3-Dichloropropene	0.0005	502.2, 524.2	Every 6 years
Ethylbenzene	0.3	502.2, 524.2	Every 6 years
Methyl-tert-butyl ether (MTBE)	0.013	502.2, 524.2	Every 6 years
Monochlorobenzene	0.07	502.2, 524.2	Every 6 years
Styrene	0.1	502.2, 524.2	Every 6 years
1,1,2,2-Tetrachloroethane	0.001	502.2, 524.2	Every 6 years
Tetrachloroethylene (PCE)	0.005	502.2, 524.2	Every 6 years
Toluene	0.15	502.2, 524.2	Every 6 years
1,2,4-Trichlorobenzene	0.005	502.2, 524.2	Every 6 years
1,1,1-Trichloroethane	0.200	502.2, 524.2	Every 6 years
1,1,2-Trichloroethane	0.005	502.2, 524.2	Every 6 years
Trichloroethylene (TCE)	0.005	502.2, 524.2	Every 6 years
Trichlorofluoromethane	0.15	502.2, 524.2	Every 6 years
1,1,2-Trichloro-1,2,2-Trifluoroethane	1.2	502.2, 524.2	Every 6 years
Vinyl Chloride	0.0005	502.2, 524.2	Every 6 years
Xylenes (total)	1.750	502.2, 524.2	Every 6 years
SOCs - Table 64444-A (b)			
Alachlor	0.002	505, 507, 508.1, 525.2	Every 3 years
Atrazine	0.001	505, 507, 508.1, 525.2	Every 3 years
Bentazon	0.018		Waived
Benzo(a)pyrene	0.0002		Waived
Carbofuran	0.018		Waived
Chlordane	0.0001		Waived
2,4-D	0.07		Waived
Dalapon	0.2		Waived
Dibromochloropropane (DBCP)	0.0002	504.1, 551.1	Every 3 years
Di(2-ethylhexyl)adipate	0.4		Waived
Di(2-ethylhexyl)phthalate	0.004		Waived
Dinoseb	0.007		Waived
Diquat	0.02		Waived
Endothall	0.1		Waived
Endrin	0.002		Waived
Ethylene Dibromide (EDB)	0.00005	504.1, 551.1	Every 3 years
Glyphosate	0.7		Waived
Heptachlor	0.00001		Waived
Heptachlor Epoxide	0.00001		Waived
Hexachlorobenzene	0.001		Waived
Hexachlorocyclopentadiene	0.05		Waived
Lindane	0.0002		Waived
Methoxychlor	0.03		Waived
Molinate	0.02		Waived
Oxamyl	0.05		Waived
Pentachlorophenol	0.001		Waived
Picloram	0.5		Waived
Polychlorinated Biphenyls	0.0005		Waived
Simazine	0.004	505, 507, 508.1, 525.2	Every 3 years
Thiobencarb	0.07		Waived
Toxaphene	0.003		Waived
2,3,7,8-TCDD (Dioxin)	0.00000003		Waived
2,4,5-TP (Silvex)	0.05		Waived

(1) This frequency applies only to chemicals for which previous results have shown no detectable results (ND).

· Contact your district office for a special monitoring schedule when detectable results are found.

WATER QUALITY MONITORING SCHEDULE
Nontransient Noncommunity System, groundwater/agricultural (PTGA)
UPDATED - September 2015

Radiological Monitoring

Radioactivity - Section 64442	MCL	EPA Method	Frequency
Gross Alpha	15 pCi/L		Based on result of last sample (1)
Total Radium	5 pCi/L	903.0	When (GA-Uranium) > 5 pCi/L (2)
Uranium	20 pCi/L		When GA > 5 pCi/L (2)
Man Made Radioactivity - Section 64443			
Tritium	20000 pCi/L		Not Required
Strontium	8 pCi/L		Not Required
Gross Beta	50 pCi/L		Not Required

1. Routine Monitoring

a) Routine monitoring frequency for Gross Alpha is based on last sample collected.

Gross Alpha	Monitoring Frequency
Less than 3 pCi/L	1 sample every 9 years
≥ 3 and ≤ 7.5 pCi/L	1 sample every 6 years
> 7.5 and ≤ 15 pCi/L	1 sample every 3 years

2. Triggered Monitoring

A frequency is generally not assigned to total radium or uranium as the monitoring for these constituents is dependent on the gross alpha results.

- a) If the Gross Alpha particle activity is less than or equal to 5 pCi/L, analysis for Uranium is not required.
- b) If the Gross Alpha particle activity for any single sample is greater than 5 pCi/L, analysis for Uranium in that same sample is required. If any single sample for Uranium is greater than 20 pCi/L, monitor at least 4 quarters for Uranium.
- c) If the Gross Alpha particle activity is > 5 pCi/L, analysis for uranium may be used to obtain the total radium activity (GA - Uranium = Total Radium). If GA - Uranium > 5, contact your district office. If GA - Uranium < 0, report only the GA and Uranium results.

Contact your district office if the MCL is exceeded, or for clarification on monitoring frequencies.

ATTACHMENT G:

Last Sample/ Next Due Monitoring Schedule

LAST SAMPLE DATE AND MONITORING SCHEDULE

SYSTEM NO: 2400091

NAME: CHARLESTON SCHOOL

COUNTY: MERCED

SOURCE NO: 011

NAME: WELL #2-SW CORNER OF PROP. DIRLL 8/19/05

CLASS: PTGA

STATUS: Active

PSCODE	GROUP/CONSTITUENT IDENTIFICATION	LAST SAMPLE	COUNT	FREQ	MODIFIED SCHEDULE	NEXT SAMPLE DUE	
2400091011	2400091 CHARLESTON SCHOOL	011	WELL #2-SW CORNER OF PROP. DIRLL 8/19/05				
IO	INORGANIC						
01105	ALUMINUM	2015/04/22	3	36		2018/04	
01097	ANTIMONY	2015/04/22	3	36		2018/04	
01002	ARSENIC	2015/04/22	3	36		2018/04	
01007	BARIUM	2015/04/22	3	36		2018/04	
01012	BERYLLIUM	2015/04/22	3	36		2018/04	
01027	CADMIUM	2015/04/22	3	36		2018/04	
01034	CHROMIUM (TOTAL)	2015/04/22	3	36		2018/04	
00951	FLUORIDE (F) (NATURAL-SOURCE)	2015/04/22	4	36		2018/04	
71900	MERCURY	2015/04/22	3	36		2018/04	
01067	NICKEL	2015/04/22	3	36		2018/04	
A-031	PERCHLORATE	2013/07/19	4	36		2016/07	
01147	SELENIUM	2015/04/22	3	36		2018/04	
01059	THALLIUM	2015/04/22	3	36		2018/04	
NI	NITRATE/NITRITE					2016/04	
00618	NITRATE (as N)		0	0		2015/11	DUE NOW
71850	NITRATE (AS NO3)	2015/04/22	10	12		2016/04	
00620	NITRITE (AS N)	2015/04/22	5	36		2018/04	
RA	RADIOLOGICAL						
01501	GROSS ALPHA	2015/09/25	4	108		M 2024/09	
S1	REGULATED VOC						
34506	1,1,1-TRICHLOROETHANE	2011/12/15	1	72		2017/12	
34516	1,1,2,2-TETRACHLOROETHANE	2011/12/15	1	72		2017/12	
34511	1,1,2-TRICHLOROETHANE	2011/12/15	1	72		2017/12	
34496	1,1-DICHLOROETHANE	2011/12/15	1	72		2017/12	
34501	1,1-DICHLOROETHYLENE	2011/12/15	1	72		2017/12	
34551	1,2,4-TRICHLOROBENZENE	2011/12/15	1	72		2017/12	
34536	1,2-DICHLOROBENZENE	2011/12/15	1	72		2017/12	
34531	1,2-DICHLOROETHANE	2011/12/15	1	72		2017/12	
34541	1,2-DICHLOROPROPANE	2011/12/15	1	72		2017/12	
34561	1,3-DICHLOROPROPENE (TOTAL)	2011/12/15	1	72		2017/12	

LAST SAMPLE DATE AND MONITORING SCHEDULE

SYSTEM NO: 2400091

NAME: CHARLESTON SCHOOL

COUNTY: MERCED

SOURCE NO: 011

NAME: WELL #2-SW CORNER OF PROP. DIRLL 8/19/05

CLASS: PTGA

STATUS: Active

PSCODE		GROUP/CONSTITUENT IDENTIFICATION	LAST SAMPLE	COUNT	FREQ	MODIFIED SCHEDULE	NEXT SAMPLE DUE
2400091011	S1	34571 1,4-DICHLOROBENZENE	2011/12/15	1	72		2017/12
		34030 BENZENE	2011/12/15	1	72		2017/12
		32102 CARBON TETRACHLORIDE	2011/12/15	1	72		2017/12
		77093 CIS-1,2-DICHLOROETHYLENE	2011/12/15	1	72		2017/12
		34423 DICHLOROMETHANE	2011/12/15	1	72		2017/12
		34371 ETHYLBENZENE	2011/12/15	1	72		2017/12
		46491 METHYL-TERT-BUTYL-ETHER (MTBE)	2011/12/15	3	72		2017/12
		34301 MONOCHLOROBENZENE	2011/12/15	1	72		2017/12
		77128 STYRENE	2011/12/15	1	72		2017/12
		34475 TETRACHLOROETHYLENE	2011/12/15	1	72		2017/12
		34010 TOLUENE	2011/12/15	1	72		2017/12
		34546 TRANS-1,2-DICHLOROETHYLENE	2011/12/15	1	72		2017/12
		39180 TRICHLOROETHYLENE	2011/12/15	1	72		2017/12
		34488 TRICHLOROFLUOROMETHANE	2011/12/15	1	72		2017/12
		81611 TRICHLOROTRIFLUOROETHANE (FREON 113)	2011/12/15	1	72		2017/12
		39175 VINYL CHLORIDE	2011/12/15	1	72		2017/12
		81551 XYLENES (TOTAL)	2011/12/15	1	72		2017/12
	S2	REGULATED SOC					
		77825 ALACHLOR	2015/04/22	3	36		2018/04
		39033 ATRAZINE	2015/04/22	3	36		2018/04
		38761 DIBROMOCHLOROPROPANE (DBCP)	2015/04/22	3	36		2018/04
		77651 ETHYLENE DIBROMIDE (EDB)	2015/04/22	3	36		2018/04
		39055 SIMAZINE	2015/04/22	3	36		2018/04

ATTACHMENT H:

Lead and Copper Tracking Report

Individual System Lead and Copper Rule Tracking Report

2400091

Charleston School

Pop: 325

Eng:

Lead Action Level: 0.015 mg/L

Copper Action Level: 1.3 mg/L

Sample Date Begin/(End)	Monitoring Period	Sample Set ID	Number Required	Number Sampled	Lead 90th % (mg/L)	Copper 90th % (mg/L)	Action Taken	Action Type	Next Due Date	Next Due Freq	Comments
(10/15/1994)	6M2ND-1994	1st 6	10	10	0.005	0.460				2nd 6	Historic Data From County
(8/10/1999)	6M2ND-1999	2nd 6	10	10	0.005	0.388				A1	Historic Data From County
(9/9/2001)	YR2001	A1	10	10	0.008	0.287				A2	Historic Data From County
(1/22/2005)	YR2005	A2	10	10	<0.005	0.229				T1	Historic Data From County
(7/7/2009)	3Y2007-2009	T1	10	11	0.008	0.153				T2	Historic Data From County
(7/19/2011)	3Y2009-2011	T2	10	10	<0.005	<0.050			9/30/2014	T3	Historic Data From County
(6/25/2013)	3Y2011-2013	T3	10	10	0.00	0.00			9/30/2017	T4	

Legend:

Cit: Citation

EL: Enforcement letter

1st 6: 1st initial 6-mo. round of monitoring
2nd 6: 2nd initial 6-mo. round of monitoring

A1: 1st Annual monitoring
A2: 2nd Annual monitoring

T1: 1st Triennial (3 yr) monitoring
T2: 2nd Triennial (3 yr) monitoring
T3: 3rd Triennial (3 yr) monitoring

12/29/2015

DRINKING WATER FIELD OPERATIONS BRANCH

**NOTICE OF CITATION ISSUANCE
PENALTY**

BACKGROUND STATEMENT

The State Water Resources Control Board, Division of Drinking Water, issued **Citation No. 03-11-17C-007** for the **Charleston School** (Public Water System No. **2400091**).

This Citation carries a penalty of \$1,500.00 (one thousand and five hundred dollars).

METHOD OF PAYMENT

Within 90 days of receipt of this Citation, submit a check in the amount of \$1,500.00 made payable to:

SWRCB – Division of Drinking Water

and mail to:

**SWRCB Accounting Office
ATTN: Drinking Water Program Fees
P.O. Box 1888
Sacramento, CA 95812-1888**

(Please indicate the Citation Number on the Check)

(Attach Check Here)